

CCNA Lab 1 Report - Simple Network

Objective

To design and test a simple LAN in Cisco Packet Tracer using two PCs connected through a switch. And the lab demonstrate:

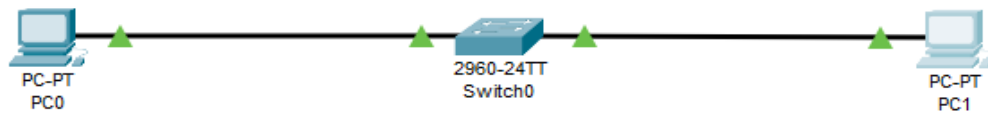
- Basic ethernet connectivity.
- IP address configuration.
- ICMP (ping) communication.
- Packet flow across the OSI layers.

Network Topology

Devices used:

- a. 2 PCs (PC0 and PC1)
- b. 1 Cisco 2960-24TT Switch
- c. 2 Copper Straight-Through Cables

Topology diagram:



IP Configuration:

Device	Interface	IP Address	Subnet Mask	Default Gateway
PC0	FastEthernet0	10.0.0.1	255.255.255.0	—
PC1	FastEthernet0	10.0.0.2	255.255.255.0	—

No router as both devices are in the same subnet.

Configuration Steps

1. Launch Cisco Packet Tracer and open a new workspace.
2. Place Devices: Add two PCs and one 2960 switch.
3. Connect Devices:
 - PC0 → Switch (FastEthernet0/1)
 - PC1 → Switch (FastEthernet0/2)
 - Use Copper Straight-Through cables.

4. Assign IP Addresses:
5. Configure static IPs on both PCs using the Desktop → IP Configuration menu.
6. Save Topology as Simple Network - Lab1.pkt.

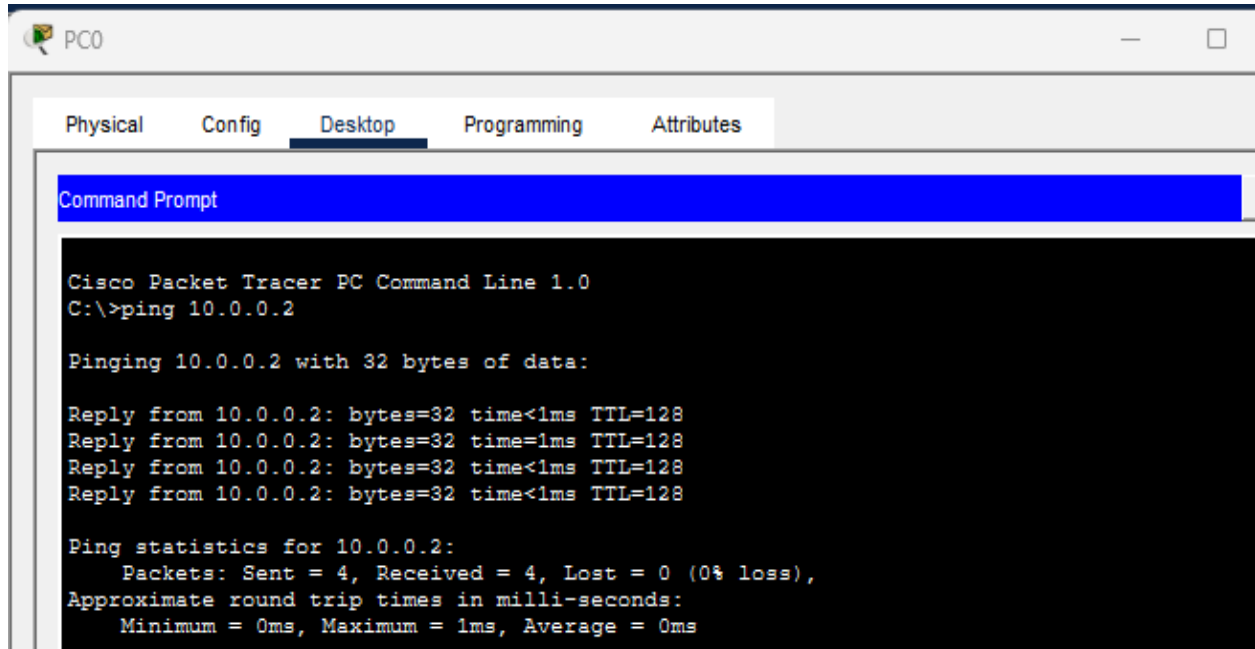
Testing Connectivity

1. Ping from PC0 to PC1

Command:

```
ping 10.0.0.2
```

Result:



The screenshot shows the PC0 Desktop tab in Cisco Packet Tracer. The Command Prompt window is open, displaying the following text:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time<1ms TTL=128
Reply from 10.0.0.2: bytes=32 time=1ms TTL=128
Reply from 10.0.0.2: bytes=32 time<1ms TTL=128
Reply from 10.0.0.2: bytes=32 time<1ms TTL=128

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

Explanation:

All four ICMP echo requests were successfully answered by PC1, confirming network connectivity.

Ping from PC1 to PC0

```
ping 10.0.0.2
```

Result:

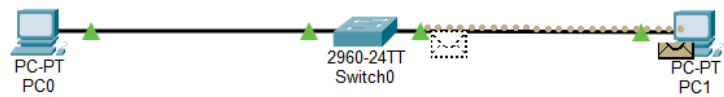
```
PC1
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.1
Pinging 10.0.0.1 with 32 bytes of data:
Reply from 10.0.0.1: bytes=32 time<1ms TTL=128
Reply from 10.0.0.1: bytes=32 time<1ms TTL=128
Reply from 10.0.0.1: bytes=32 time=1ms TTL=128
Reply from 10.0.0.1: bytes=32 time<1ms TTL=128
Ping statistics for 10.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>
```

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Explanation:

PC1 can also reach PC0, meaning the switch forwards frames correctly and both NICs are functioning.

Packet Flow Observation (Simulation Mode)



Test	Source	Destination	Result
Ping Test	PC0 → PC1	Success (0% loss)	
Ping Test	PC1 → PC0	Success (0% loss)	